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DEFENSE INFORMATION SYSTEMS AGENCY
VIDEO TELECONFERENCING
INTEROPERABILITY ASSESSMENT REPORT

Radvision Scopia Elite Family Rel. 7.5.1.11.9

TN# 1028101

22 April 2011

Prepared by:

318th Information Operations Group (318th IOG)
346th Test Squadron (346th TS)
Telecommunication Systems Security Assessment Program (TSSAP)
Lackland Air Force Base, Texas 78243

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DISCLAIMER

TSSAP Program Manager:

Ms. Sylvia Vasquez
Comm: (210) 925-3482
(DSN) 945-3482
E-mail: sylvia.vasquez@us.af.mil

ORGANIZATIONAL OVERVIEW

The 688th Information Operations Wing (688th IOW) is the focal point for supporting the IO warfighter by discovering, refining, and integrating IO technologies and capabilities in the AF's cyberspace warfighting infrastructure. The wing is structured to help drive the AF in its goal to develop IO requirements and corresponding solutions. The objective is to support the warfighter through employing the wing's significant technical expertise and leveraging government, academia, and industry technology activities. This, coupled with ready access to IO capabilities operators, allows the wing to provide world-class support in its four areas of expertise: architectures, requirements, and capability analysis support; network warfare systems capability integration activities; network defense risk and product assessments, and Information Assurance (IA) verification; and expert operational support for AF IO assets. The 346th Test Squadron (346 TS), a squadron under the 318th Information Operations Group (318 IOG) and the 688 IOW, is Air Force Space Command's (AFSPC) Operational Test Organization (OTO) for testing systems and capabilities for Network Defense and IA. The objective is to verify the operational effectiveness and suitability of these capabilities and systems in an operational environment.

APPROVING/RELEASING AUTHORITY

_____ DATE: _____

Oliver A. Sagun, Captain, USAF
Flight Commander, 346TS/TED

EXECUTIVE SUMMARY

This certification is based on both interoperability testing and review of the vendor's supplied Letters of Compliance (LoC). This certification describes the results of the Interoperability (IO) assessment performed on the Radvision Scopia Elite Family Rel. 7.5.1.11.9. IO testing was conducted at the Telecommunication Systems Security Assessment Program (TSSAP) testing facility of the 346th Test Squadron at the 318th Information Operations Group (IOG), San Antonio, Texas from 3 through 7 June 2010. The IO testing focused on requirements derived from the Unified Capabilities Requirements (UCR) 2008 change 1 and test procedures written by the JITC Test Facility at Ft. Huachuca AZ. Testing was conducted in an environment that emulates the Defense Switched Network (DSN). This certification was on hold pending Information Assurance testing, which is published in a separate report. The System Under Test (SUT) test results were reviewed to ensure they met the requirements set forth in the UCR 2008 change 1.

The Radvision Scopia Elite Family Rel. 7.5.1.11.9 is hereinafter referred to as the SUT. The SUT met the interface and functional requirements for Video Teleconference (VTC) and is certified for joint use within the DSN. No other configurations, features, or functions, except those cited within this report, are certified by TSSAP or authorized by the Program Management Office for use within the DSN. This certification expires upon changes that affect interoperability, but no later than three years from the date of this memorandum.

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DEFENSE INFORMATION SYSTEMS AGENCY
P. O. BOX 549
FORT MEADE, MARYLAND 20755-0549

Joint Interoperability Test Command (JTE)

IN REPLY
REFER TO:

MEMORANDUM FOR DISTRIBUTION **20 Jul 11**

SUBJECT: Special Interoperability Test Certification of the Radvision Scopia Elite Family with Software Release (SR) 7.5.1.11.9 and the Polycom Serial Gateway with SR 5.7.2.0.G.

References:

(a) DoD Directive 4630.05, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01E, "Interoperability and Supportability of Information Technology and National Security Systems," 15 December 2008
(c) through (f), see Enclosure 1

1. References (a) and (b) establish the Defense Information Systems Agency (DISA), Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification.

2. The Radvision Scopia Elite 5230 with SR 7.5.1.11.9 and Polycom Serial Gateway with SR 5.7.2.0.G are hereinafter referred to as the System Under Test (SUT). The Radvision Scopia Elite 5230 with SR 7.5.1.11.9 is composed of a Multipoint Conference Unit (MCU) that only has an Internet Protocol (IP) (10/100/1000 Megabits per second) interface. The Polycom Serial Gateway with SR 5.7.2.0.G is the IP to Time Division Multiplexing (TDM) gateway used to provide access to the Defense Switched Network (DSN). The SUT met all of the critical interface and functional interoperability requirements and is certified for use within the Defense Information System Network (DISN) as a Video Teleconferencing (VTC) system. The SUT also met the conditional requirements for an IP interface with the International Telecommunication Union – Telecommunication Standardization Sector (ITU-T) H.323 protocol; however, Assured Service is not yet defined for an IP interface with ITU-T H.323 protocol. Therefore, Command and Control (C2) VTC users and Special C2 VTC users are not authorized to be served by the SUT for ITU-T H.323 to ITU-T H.323 protocol VTC sessions. However, the SUT is certified for C2 and Special C2 VTC sessions when the Polycom Serial Gateway with SR 5.7.2.0.G is configured with the SUT to connect to the DSN. The SUT meets the critical interoperability requirements set forth in References (c) and (d) using test procedures derived from Reference (e). Radvision Scopia Elite 5110 and 5115 employ the same software and similar hardware as the SUT. JITC analysis determined these Radvision devices to be functionally identical to the SUT for interoperability certification purposes and therefore they are also certified for joint use. No other configurations, features, or functions, except those cited within this report, are certified by the JITC. This certification expires upon changes that affect interoperability, but no later than

three years from the date of Defense Information Assurance (IA)/Security Accreditation Working Group (DSAWG) accreditation.

3. This finding is based on interoperability testing, adjudication of the Test Discrepancy Report (TDR), review of the vendor's Letters of Compliance (LoC), and DSAWG accreditation. Interoperability testing was conducted by the Telecommunication Systems Security Assessment Program (TSSAP), 346th Test Squadron, 318th Information Operations Group (IOG), San Antonio, Texas, from 3 through 7 January 2011. The DISA adjudication of the TDR was completed on 26 January 2011. Review of the LoC was completed on 7 January 2011. DSAWG granted accreditation on 12 March 2011 based on the security testing completed by Department of Defense Component lab IA test teams and published in a separate report, Reference (f). The Certification Testing Summary (Enclosure 2) documents the test results and describes the test configuration.

4. The Functional Requirements used to evaluate the interoperability of the SUT and the interoperability statuses are indicated in Table 1.

Table 1. SUT Functional Requirements and Interoperability Status

Interface	Critical	Certified	Requirements Required or Conditional	Status	UCR Reference
IP (10/100 Mbps) ITU-T H.323	Yes	Yes[2]	The VTC system/endpoints shall meet the requirements of FTR1080B-2002. (R)	Met	5.2.4.2
			ITU-T H.323 in accordance with FTR 1080B-2002. (C)	Met	5.2.4.2
			Layer 3 Differential Service Code Point tagging as specified in the UCR, Section 5.3.1. (C)	Partially Met[3]	5.2.4.2
			A loss of any conferee on a multipoint videoconference shall not terminate or degrade the DSN service supporting VTC connections of any of the other conferees on the videoconference. (R)	Met	5.2.4.2
			Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R)	Met	5.2.4.2
			VTU IP interface must be IPv6 capable. (R)	Partially Met[2,3]	Reference (d)
Serial EIA-366A EIA-449 EIA-530 ITU-T V.35	No[1]	Yes	The VTC system/endpoints shall meet the requirements of FTR1080B-2002. (R)	Met	5.2.4.2
			A loss of any conferee on a multipoint videoconference shall not terminate or degrade the DSN service supporting VTC connections of any of the other conferees on the videoconference. (R)	Met	5.2.4.2
			Integrated Serial interface to another device shall be in conformance with the requirements for that device as described in FTR1080B-2002. (C)	Met	5.2.4.2
			Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R)	Met	5.2.4.2
Security	Yes	Certified	GR-815, STIGs, and DoDI 8510.bb (DIACAP) (R)	See note 4.	4.3.1 and 5.4.6.1

Table 1. SUT Functional Requirements and Interoperability Status (continued)

NOTES:

1 The UCR does not state a minimum required interface for a VTC system. A VTC system can offer any one of the following interfaces: ISDN BRI, Serial, T1 ISDN PRI, E1 ISDN PRI, and IP. The SUT consists of a VTC Codec and TDM Gateway. The VTC codec only supports IP; therefore, the SUT includes an IP to TDM gateway to connect to the DSN. The gateway included with the SUT is the Polycom Serial Gateway with SR 5.7.2.0.G.

2 The SUT met the conditional requirements for an IP interface with the ITU-T H.323 protocol; however, Assured Service is not yet defined for an IP interface with ITU-T H.323 protocol. Therefore, C2 VTC users and Special C2 VTC users are not authorized to be served by an IP interface with the ITU-T H.323 protocol. However, the SUT is certified for C2 and Special C2 VTC sessions via the Polycom Serial Gateway with SR 5.7.2.0.G.

3 The SUT supports Differential Service Code Point tagging for IPv4, but does not support this service for IPv6. The SUT did not have the ability to place outbound IPv6 calls but was able to receive inbound IPv6 participants. This discrepancy was adjudicated by DISA on 26 January 2011 as having a minor operational impact. The vendor provided a Plan of Actions and Milestone to correct this issue by December 2011.

4 Security is tested by Department of Defense Component lab Information Assurance test teams and published in a separate report, Reference (f).

LEGEND:

BRI	Basic Rate Interface
C	Conditional
C2	Command and Control
DIACAP	Department of Defense Information Assurance Certification and Accreditation Process
DISA	Defense Information Systems Agency
DoDI	Department of Defense Instruction
DSN	Defense Switched Network
EIA	Electronic Industries Association
EIA-366A	Standard for interface between DTE and automatic Calling equipment for data communication
EIA-449	Standard for 37-position and 9-posistion interface for DTE and DCE employing serial binary data interchange
EIA-530	Standard for 25-position interface for DTC and DCE Employing serial binary data interchange
E1	European Basic Multiplex Rate (2.048 Mbps)
FTR	Federal Telecommunications Recommendation
GR	Generic Requirement
GR 815	Generic Requirements for Network Element/Network System (NE/NS) Security
H.320	Standard for narrowband VTC
H.323	Standard for multi-media communications on packet-based networks
IP	Internet Protocol
IPv6	Internet Protocol version 6
ISDN	Integrated Services Digital Network
ITU-T	International Telecommunication Union - Telecommunication Standardization Sector
Mbps	Megabits per second
PRI	Primary Rate Interface
R	Required
STIGs	Security Technical Implementation Guides
SUT	System Under Test
TDM	Time Division Multiplexing
T1	Digital Transmission Link Level 1 (1.544 Mbps)
UCR	Unified Capabilities Requirements
V.35	Standard for data transmission at 48 kbps using 60-108 kHz group band circuits
V.36	Modems for synchronous data transmission using 60-108 kHz group band circuits
V.37	Synchronous data transmission at a data signaling rate higher than 72 kbps using 60-108 kHz group band circuits
VTC	Video Teleconferencing
VTU	Video Teleconferencing Unit

5. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at https://stp.fhu.disa.mil. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at https://jit.fhu.disa.mil (NIPRNet), or http://199.208.204.226 (SIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at http://jitc.fhu.disa.mil/tssi. Due to the sensitivity of the information, the Information Assurance Accreditation Package (IAAP) that contains the approved configuration and deployment guide must be requested directly through government civilian or uniformed military personnel from the Unified Capabilities Certification Office (UCCO), e-mail: ucco@disa.mil.

6. The JITC point of contact is Mr. Steve Lesneski, DSN 879-5400, commercial (520) 538-5400, FAX DSN 879-4347, or e-mail to steve.lesneski@disa.mil. The JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ. 85670-2798. The tracking number for the SUT is 1028101.

FOR THE COMMANDER:

2 Enclosures a/s

for BRADLEY A. CLARK
Chief
Battlespace Communications Portfolio

Distribution (electronic mail):
Joint Staff J-6
Joint Interoperability Test Command, Liaison, TE3/JT1
Office of Chief of Naval Operations, CNO N6F2
Headquarters U.S. Air Force, Office of Warfighting Integration & CIO, AF/XCIN (A6N)
Department of the Army, Office of the Secretary of the Army, DA-OSA CIO/G-6 ASA (ALT), SAIS-IOQ
U.S. Marine Corps MARCORSYSCOM, SIAT, MJI Division I
DOT&E, Net-Centric Systems and Naval Warfare
U.S. Coast Guard, CG-64
Defense Intelligence Agency
National Security Agency, DT
Defense Information Systems Agency, TEMC
Office of Assistant Secretary of Defense (NII)/DOD CIO
U.S. Joint Forces Command, Net-Centric Integration, Communication, and Capabilities Division, J68
Defense Information Systems Agency, GS23

ADDITIONAL REFERENCES

(c) Defense Information Systems Agency, "Department of Defense Networks Unified Capabilities Requirements 2008," January 2010
(d) Office of the Secretary of Defense, "Interim Unified Capabilities (UC) IPv6 Rules of Engagement (ROE)," 31 July 2009
(e) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP), Change 2," 2 October 2006
(f) Air Force Test Facility, "Information Assurance (IA) Assessment of Radvision Scopia Elite Family with Software Release 7.5.1.11.9 (TN 1028101)," 28 January 2011

CERTIFICATION TESTING SUMMARY

1. SYSTEM TITLE. Radvision Scopia Elite Family with Software Release (SR) 7.5.1.11.9 and with the Polycom Serial Gateway with SR 5.7.2.0.G; hereinafter referred to as the System Under Test (SUT).

2. PROPONENT. Headquarters, Army Materiel Command, Department of the Army (USA).

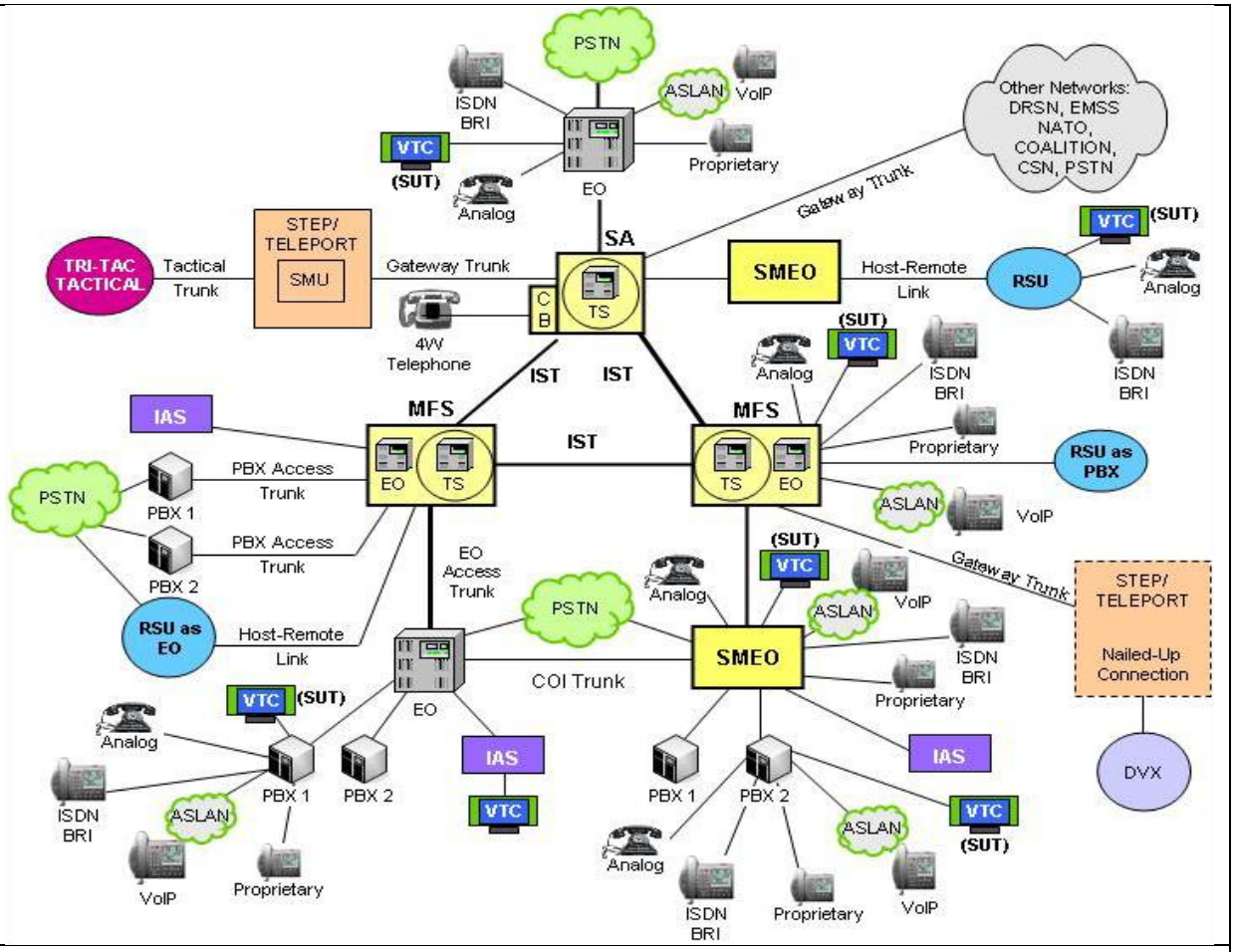
3. PROGRAM MANAGER. Rose Holshouser, PdM-UC&C, 7612 Cardinal Road, Redstone Arsenal, Alabama, 35898, Email: rose.holshouser@us.army.mil.

4. TESTER. Telecommunication Systems Security Assessment Program (TSSAP) testing facility, 346th Test Squadron, 318th Information Operations Group (IOG), United States Air Force, San Antonio, Texas.

5. SYSTEM UNDER TEST DESCRIPTION. The Radvision Scopia Elite 5230 with SR 7.5.1.11.9 is a Multipoint Conference Unit (MCU) having a 10/100 Megabits per second (Mbps) Internet Protocol (IP) interface. The Polycom Serial Gateway with SR 5.7.2.0.G is the IP to Time Division Multiplexing (TDM) gateway used to provide access to the Defense Switched Network (DSN). The SUT connects multi-party videoconferencing with on demand meeting rooms. The SUT supports endpoints using International Telecommunications Union-Telecommunications Standardization Sector (ITU-T) H.323 or ITU-T H.320. The SUT supports the following features which were met through testing or vendor submission of Letters of Compliance (LoC) unless otherwise noted:

- Network Interfaces: 10/100/1000 Megabits per second (Mbps) auto network interface card
- Standards: ITU-T H.323, ITU-T H.320
- Audio standards: ITU-T G.711, ITU-T G.722, ITU-T G.722.1, G.723.1, Polycom Siren 14
- Video standards: ITU-T H.261, ITU-T H.263, ITU-T H.263++, ITU-T H.264, ITU-T H.239, ITU-T H.241
- Multi-Control Point compatibility ITU-T H.243
- Serial support: ITU-T V.35, Electronic Industries Alliance (EIA)-530, and EIA-449 with EIA-366 dialing

6. OPERATIONAL ARCHITECTURE. The Unified Capabilities Requirements (UCR) DSN architecture in Figure 2-1 depicts the relationship of the SUT to the DSN switches.



LEGEND:

4W	4-Wire
ASLAN	Assured Services Local Area Network
BRI	Basic Rate Interface
CB	Channel Bank
COI	Community of Interest
CSN	Canadian Switch Network
DRSN	Defense Red Switch Network
DSN	Defense Switched Network
DVX	Deployable Voice Exchange
EMSS	Enhanced Mobile Satellite System
EO	End Office
IAS	Integrated Access Switch
ISDN	Integrated Services Digital Network
IST	Interswitch Trunk
MFS	Multifunction Switch
NATO	North Atlantic Treaty Organization
PBX	Private Branch Exchange
PBX 1	Private Branch Exchange 1
PBX 2	Private Branch Exchange 2
PSTN	Public Switched Telephone Network
RSU	Remote Switching Unit
SA	Standalone
SMEO	Small End Office
SMU	Switched Multiplex Unit
STEP	Standardized Tactical Entry Point
SUT	System Under Test
Tri-Tac	Tri-Service Tactical Communications Program
TS	Tandem Switch
VoIP	Voice over Internet Protocol
VTC	Video Teleconferencing

Figure 2-1. Relationship of the SUT to the DSN Architecture

7. REQUIRED SYSTEM INTERFACES. Requirements specific to the SUT and interoperability results are listed in Table 2-1. These requirements are derived from UCR Interface and Functional Requirements and are verified through TSSAP testing and review of the vendor's LoC.

Table 2-1. SUT Functional Requirements and Interoperability Status

Interface	Critical	Certified	Requirements Required or Conditional	Status	UCR Reference
IP (10/100 Mbps) ITU-T H.323	Yes[1]	Yes[2]	The VTC system/endpoints shall meet the requirements of FTR1080B-2002. (R)	Met	5.2.4.2
			ITU-T H.323 in accordance with FTR 1080B-2002. (C)	Met	5.2.4.2
			Layer 3 Differential Service Code Point tagging as specified in the UCR, Section 5.2.12.8.2.9. (C)	Partially Met[3]	5.2.4.2
			A loss of any conferee on a multipoint videoconference shall not terminate or degrade the DSN service supporting VTC connections of any of the other conferees on the videoconference. (R)	Met	5.2.4.2
			Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R)	Met	5.2.4.2
			VTU IP interface must be IPv6 capable. (R)	Partially Met[2,3]	Reference (d)
Serial EIA-366A EIA-449 EIA-530 ITU-T V.35	No[1]	Yes	The VTC system/endpoints shall meet the requirements of FTR1080B-2002. (R)	Met	5.2.4.2
			A loss of any conferee on a multipoint videoconference shall not terminate or degrade the DSN service supporting VTC connections of any of the other conferees on the videoconference. (R)	Met	5.2.4.2
			Audio add-on interface, implemented independently of an IAS, shall be in accordance with the UCR, Section 5.2.12.3. (C)	Met	5.2.4.2
			Integrated Serial interface to another device shall be in conformance with the requirements for that device as described in FTR1080B-2002. (C)	Met	5.2.4.2
			Physical, electrical, and software characteristics shall not degrade or impair switch and associated network operations. (R)	Met	5.2.4.2
Security	Yes	Certified	GR-815, STIGs, and DoDI 8510.bb (DIACAP) (R)	See note 4.	4.3.1 and 5.4.6.1

Table 2-1. SUT Functional Requirements and Interoperability Status (continued)

NOTES:

1 The UCR does not state a minimum required interface for a VTC system. A VTC system can offer any one of the following interfaces: ISDN BRI, Serial, T1 ISDN PRI, E1 ISDN PRI, and IP. The SUT consists of a VTC Codec and TDM Gateway. The VTC codec supports only supports IP; therefore, the SUT includes an IP to TDM gateway to connect to the DSN. The gateway included with the SUT is the Polycom Serial Gateway with SR 5.7.2.0.G.

2 The SUT met the conditional requirements for an IP interface with the ITU-T H.323 protocol; however, Assured Service is not yet defined for an IP interface with ITU-T H.323 protocol. Therefore, C2 VTC users and Special C2 VTC users are not authorized to be served by an IP interface with the ITU-T H.323 protocol. However, the SUT is certified for C2 and Special C2 VTC sessions via the Polycom Serial Gateway with SR 5.7.2.0.G.

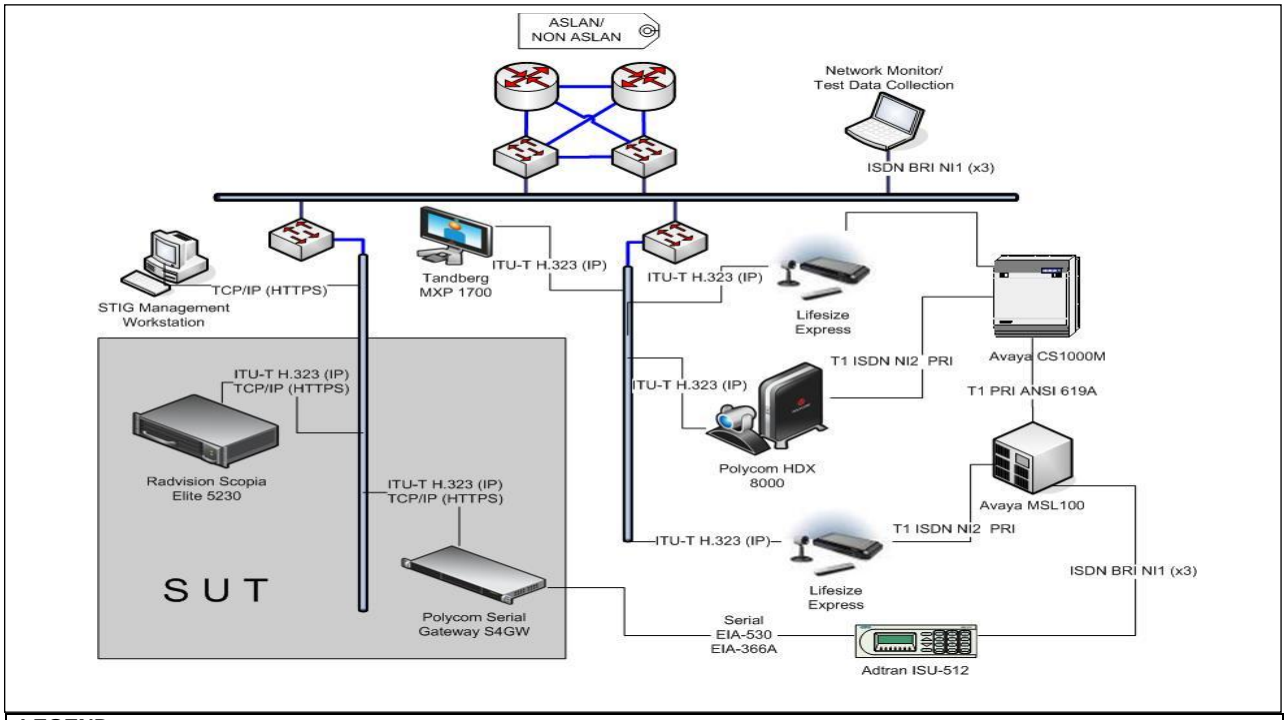
3 The SUT supports Differential Service Code Point tagging for IPv4, but does not support this service for IPv6. The SUT did not have the ability to place outbound IPv6 calls but was able to receive inbound IPv6 participants. This discrepancy was adjudicated by DISA on 26 January 2010 as having a minor operational impact. The vendor provided a Plan of Actions and Milestone to correct this issue by December 2011.

4 Security is tested by Department of Defense Component lab Information Assurance test teams and published in a separate report, Reference (f).

LEGEND:

BRI	Basic Rate Interface	IP	Internet Protocol
C	Conditional	IPv6	Internet Protocol version 6
C2	Command and Control	ISDN	Integrated Services Digital Network
DIACAP	Department of Defense Information Assurance Certification and Accreditation Process	ITU-T	International Telecommunication Union - Telecommunication Standardization Sector
DISA	Defense Information Systems Agency	Mbps	Megabits per second
DoDI	Department of Defense Instruction	PRI	Primary Rate Interface
DSN	Defense Switched Network	R	Required
EIA	Electronic Industries Association	STIGs	Security Technical Implementation Guides
E1	European Basic Multiplex Rate (2.048 Mbps)	SUT	System Under Test
FTR	Federal Telecommunications Recommendation	TDM	Time Division Multiplexing
GR	Generic Requirement	T1	Digital Transmission Link Level 1 (1.544 Mbps)
GR 815	Generic Requirements for Network Element/Network System (NE/NS) Security	UCR	Unified Capabilities Requirements
		VTC	Video Teleconferencing
H.323	Standard for multi-media communications on packet-based networks	VTU	Video Teleconferencing Unit

8. Test Network Description. The SUT was tested at the TSSAP in a manner and configuration similar to that of the DSN operational environment. Testing the system's required functions and features was conducted using the test configuration depicted in Figure 2-2.



LEGEND:

ANSI	American National Standards Institute
ASLAN	Assured Services Local Area Network
BRI	Basic Rate Interface
CS	Communication Server
DCE	Data circuit-terminating equipment
DTE	Data terminal equipment
EIA	Electronic Industries Alliance
EIA-366A	Standard for interface between DTE and automatic calling equipment for data communication
EIA-530	Standard for 25-position interface for DTE and DCE employing serial binary data interchange
H.323	Standard for multi-media communications on packet-based networks
HDX	High Definition Experience
HTTPS	Hypertext Transfer Protocol Secure
IP	Internet Protocol
ISDN	Integrated Services Digital Network
ITU-T	International Telecommunication Union – Telecommunication Standardization Sector
Mbps	Megabits per second
MLPP	Multi-Level Precedence and Preemption
MSL	Meridian Switch Logic
MXP	Media Experience
NI1	National ISDN Standard 1
NI2	National ISDN Standard 2
PRI	Primary Rate Interface
SS7	Signaling System 7
STIG	Secure Technical Implementation Guide
SUT	System Under Test
T1	Digital Transmission Link Level 1 (1.544 Mbps)
T1.619A	SS7 and ISDN MLPP Signaling Standard for T1
TCP/IP	Transmission Control Protocol/Internet Protocol
V.35	Standard for data transmission at 48 kbps using 60-108 kHz group band circuits
V.36	Modems for synchronous data transmission using 60-108 kHz group band circuits
V.37	Synchronous data transmission at a data signaling rate higher than 72 kbps using 60-108 group band circuits

Figure 2-2. SUT Test Configuration

9. SYSTEM CONFIGURATIONS. Table 2-2 provides the system configurations, hardware, and software components tested with the SUT. The SUT was tested in an operationally realistic environment to determine interoperability with a complement of DSN switches noted in Table 2-2. Table 2-2 lists the DSN switches which depict the tested configuration and is not intended to identify the only switches that are certified with the SUT. The SUT is certified with switching systems listed on the Unified Capabilities (UC) Approved Products List (APL) that offer the same certified interfaces.

Table 2-2. SUT Test Configuration

System Name	Software Release
Avaya MSL-100	MSL-17
Avaya CS1000M	4.5
Adtran ISU-512 IMUX	Firmware Version F.00, Cksum 2d44
Polycom HDX 8000	2.0.5_J-2854
LifeSize® Express™, Express 200™	4.2.10(5)
LifeSize® Networker™	3.1.1(4)
System Under Test (See note 1)	**Software Release**
Radvision Scopia Elite 5230	7.5.1.11.9
Radvision Scopia Elite 5110, 5115	7.5.1.11.9
Polycom Serial Gateway S4GW	5.7.2.0.G

NOTES:
1. Systems bolded and underlined were tested by JITC. The other components in the family series were not tested; however, they utilize the same software and similar hardware and JITC analysis determined them to be functionally identical for interoperability certification purposes and they are also certified for joint use.

LEGEND:

CS	Communication Server	MXP	Media Experience
HDX	High Definition Experience	NTSC	National Television System Committee
MSL	Meridian Switch Logic		

10. TEST LIMITATIONS. None

11. TEST RESULTS

a. Discussion. The VTC system interface requirements can be met with an ISDN BRI, T1 or E1 ISDN PRI, Serial, or ITU-T H.323 interface. Although each interface is conditional, if the SUT offers an interface, it must meet the critical requirements for that interface. The SUT minimum critical interoperability interface and functional requirements were met through both interoperability certification testing conducted at the TSSAP and review of the vendor's LoC. Bonding mode 1 was tested to requirements defined in UCR 2008 change 1, Section 5.2.4.2 and Federal Telecommunications Recommendation (FTR) 1080B-2002. Bonding, often referred to as channel aggregation, takes place through inverse multiplexing. Inverse multiplexing takes a high-bandwidth signal and splits it for transport through the network over multiple lower-bandwidth channels. At the receiving end, the multiple, lower-bandwidth signals are recombined into the original high-bandwidth signal. The SUT received inbound calls and placed outbound calls to various VTC codecs. The successful tests demonstrated the SUT's ability to participate in high-speed VTC conferences.

Seven- and ten-digit calls were placed to verify that the SUT met the capability to support both the North American Numbering Plan and the DSN World Wide Numbering and Dialing Plan (WWNDP) defined in UCR, 5.2.6.2.3 (5.2.3.5.1). Multilevel precedence video calls were placed from the SUT and established within the DSN at the respective precedence level dialing the DSN WWNDP access code (e.g. 93: Priority, 92: Immediate, 91: Flash, etc.). The SUT has the ability to prefix any DSN 7 or 10 digit number with a 9X access code which meets this requirement. A passed test

result was based on 100 percent of the calls receiving a score of four or better on the subjective quality scale as defined in Table 2-3.

Table 2-3. Video and Voice Subjective Quality Scale

Rating	Reference	Definition
1	*Unusable*	Quality is unusable. Voice and video may be heard and seen but is unrecognizable.
2	Poor	Quality is unusable. Words and phrases are not fully understandable or video cannot be properly identified.
3	Fair	Quality is seriously affected by distortion. Repeating words and phrases are required to convey speech or video is seriously impacted and barely recognizable.
4	**Good**	**Quality is usable. Audio or video is not impaired but some distortion is noticeable**
5	Excellent	Quality is unaffected. No discernable problems with either audio or video.
NOTE: Audio and video quality during a conference will receive a subjective rating on the Data Collection Form. A rating of lower than 4 on this reference scale is considered a failure.		

b. Test Conduct. Multiple two-way 64 kilobits per second (kbps) – 1.544 Mbps test calls at different durations (5-minutes, 30-minutes, 1-hour, 24-hours) were placed over the test network shown in Figure 2-2 via all the combinations depicted in Table 2-1. The VTC test calls were placed at various precedence levels over the test configurations depicted in Figure 2-2. The SUT was tested in both IP version 4 (IPv4) and IP version 6 (IPv6) environments. The UCR, Section 5.2.4.2 requirements state:

(1) The VTC system/endpoints shall meet the requirements of FTR 1080B-2002. The SUT does not support Nx56 bonding in accordance with the FTR 1080B-2002. This discrepancy was adjudicated by DISA on 26 January 2010 as having a minor operational impact. The SUT met these requirements through testing and review of the vendor's LoC.

(2) The VTC features and functions used in conjunction with IP network services shall meet the requirements of ITU-T H.323 in accordance with FTR 1080B-2002. Additionally, ITU-T H.323 video end instruments must meet the tagging requirements as specified in UCR 2008 change 1, Section 5.3.1, Voice over IP System Service Class Tagging Requirements. The SUT did not have the ability to apply Differentiated Service Code Point tagging for IPv6 traffic. The SUT also was unable to place outbound IPv6 calls but was able to receive inbound IPv6 participants. The requirements for IPv6 were partially met by the SUT. The remaining requirements were met through testing and review of the vendor's LoC.

(3) A loss of any conferee on a multipoint videoconference shall not terminate or degrade the DSN service supporting VTC connections of any of the other conferees on the videoconference. This was tested during each session established with the SUT by disconnecting single and multiple conferees. This was done by hanging up and simulating a failure by disconnecting the physical interface or by preempting both participating conferees and other precedent users. During these tests, the remaining conferees were not affected and remained in the conference.

(4) A VTC system/endpoint that uses a serial interface to another device, such as a cryptographic device, IAS or TA, for eventual connection to the DSN, shall be in conformance with the requirements for that serial interface as described in FTR 1080B-2002. The SUT met this requirement through testing and the vendor's LoC.

(5) The physical, electrical, and software characteristics of Video Teleconferencing Unit system(s)/endpoint(s) that are used in the DSN network shall not degrade or impair the serving DSN switch and its associated network operations. This was tested by conducting other tests on the serving DSN switch while point-to-point and multipoint video sessions were established. During these tests, the SUT physical, electrical, and software characteristics did not impair the serving DSN switch and its associated operations.

(6) The UCR section 5.4 states the Information Assurance requirements for the SUT. These requirements are tested by Department of Defense Component lab Information Assurance test teams and results are published under a separate report, Reference (f).

c. Test Summary. The SUT met the critical interface and functional requirements as set forth in Reference (c) for a VTC system for the interfaces depicted in Table 2-1, and is certified for joint use within the Defense Information System Network (DISN). The SUT met the requirements for Serial and IP interfaces with the ITU-T H.323 protocol; however, Assured Service is not yet defined for an IP interface with the ITU-T H.323 with the protocol. Since the IP interface with the ITU-T H.323 protocol does not provide Assured Services during a crisis or contingency, users' access to the DSN will be on a best effort basis. Therefore, Command and Control (C2) VTC users and Special C2 VTC users are not authorized to be served by an IP interface with the ITU-T H.323 protocol. However, the SUT is certified for C2 and Special C2 VTC sessions via the Polycom Serial Gateway with SR 5.7.2.0.G.

12. TEST AND ANALYSIS REPORT. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at https://stp.fhu.disa.mil. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at http://jit.fhu.disa.mil (NIPRNet), or http://199.208.204.125 (SIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at http://jitc.fhu.disa.mil/tssi. Due to the sensitivity of the information, the Information Assurance Accreditation Package (IAAP) that contains the approved configuration and deployment guide must be requested directly through government civilian or uniformed military personnel from the Unified Capabilities Certification Office (UCCO), e-mail: ucco@disa.mil.